-- DETAILED DESCRIPTION OF PREFERRED EMBODIMENTS--

A Marked-up Version of Amended Specification Pages 1, 2 and 6 is enclosed.

IN THE CLAIMS:

Please cancel claims 1 to 12 without prejudice, and please insert new claims 13 to 24.

13. A semiconductor wafer, comprising

a substrate wafer made of monocrystalline silicon and an epitaxial layer deposited thereon;

said substrate wafer having a resistivity of from 0.1 to 50 Ωcm, an oxygen concentration of less than $7.5*10^{17}$ $atcm^{-3}$ and a nitrogen concentration of from $1*10^{13}$ to $5*10^{15}$ $atcm^{-3}$; and

the epitaxial layer has a thickness of from 0.2 to 1.0 µm and has a surface on which fewer than 30 LLS defects with a size of more than 0.085 µm can be detected.

14. The semiconductor wafer as claimed in claim 13,

wherein the oxygen concentration of the substrate wafer is less than $6.5*10^{17}$ $atcm^{-3}$.

15. The semiconductor wafer as claimed in claim 13,

wherein the nitrogen concentration of the substrate wafer lies in a range of from $1*10^{14}$ to $5*10^{14}$ $atcm^{-3}$.

16. A process for producing a semiconductor wafer with an epitaxial layer by depositing the layer on a substrate wafer made of monocrystalline silicon, by a sequence of steps comprising:

providing a substrate wafer, having a resistivity of from 0.1 to 50 Ωcm, an oxygen concentration of less than $7.5*10^{17}$ $atcm^{-3}$ and a nitrogen concentration of from $1*10^{13}$ to $5*10^{15}$ $atcm^{-3}$;

heating the substrate wafer in a deposition reactor to a deposition temperature of at least 1120°C to 1170°C; and

immediately after the deposition temperature has been reached, depositing of the epitaxial layer with a thickness of from 0.2 to 1.0 µm.

17. A process for producing a semiconductor wafer with an epitaxial layer by depositing the layer on a substrate wafer made of monocrystalline silicon, by a sequence of steps comprising:

providing a substrate wafer by separating the substrate wafer from a single crystal which has been pulled according to the Czochralski process and subjected to forced cooling,

said substrate wafer having a resistivity of from 0.1 to 50 Ωcm, an oxygen concentration of less than $7.5*10^{17}$ $atcm^{-3}$ to $5*10^{15}$ $atcm^{-3}$;

heating of the substrate wafer in a deposition reactor to a deposition temperature of at least 1120°C; and

immediately after the deposition temperature has been reached, depositing the epitaxial layer with a thickness of from 0.2 to 1.0 µm.

18. The process as claimed in claim 16, comprising

pulling a single crystal from a melt in accordance with the Czochralski process, and at least 90 minutes elapsing before the single crystal has passed through a temperature range of from 1050°C to 900°C, the single crystal serving as a source for the providing of the substrate wafer, and the deposition temperature during the depositing of the epitaxial layer is from 1120°C to 1170°C.

19. The process as claimed in claim 16, comprising

pulling a single crystal from a melt in accordance with the Czochralski process and not more than 40 minutes elapsing before the single crystal, with application of forced cooling, has passed through the temperature range from 1050°C to 900°C, the single crystal serving as a source for the providing of the substrate wafer, and the deposition temperature during the depositing of the epitaxial layer is from 1120°C to 1200°C.

20. The process as claimed in claim 19,

wherein the deposition temperature is from 1130°C to 1190°C.

21. The process as claimed in claim 16, comprising

heating the substrate wafer to the deposition temperature in a gas atmosphere being selected from the group of gases consisting of hydrogen, argon, helium and mixtures of these gases.